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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,920	10/22/2003	Donald E. Mosing	FRK-102	6867
21897	7590	09/14/2005	EXAMINER	
THE MATTHEWS FIRM 2000 BERING DRIVE SUITE 700 HOUSTON, TX 77057			PATEL, VISHAL A	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,920

Applicant(s)

MOSING ET AL.

Examiner

Vishal Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10, 12-15, 17-21, 23, 26, 28, 29, 32-39, 51, 54, 56-58, 60, 61, 63-66, 69, 72 and 73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 12-15, 17-21, 23, 26, 28, 29, 32-39, 51, 54, 56-58, 60, 61, 63-66, 69, 72 and 73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-5, 7, 10, 12, 14, 18, 20, 23, 26, 29, 34-35, 37, 39, 51, 54, 60-61, 63, 69 and 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US. 1,507,877) in view of Wood (US. 5,709,416).

The Wilson coupling illustrates and teaches a connection for assembly of with a first pipe 16 having a female end 14, a second pipe 12 having a male end 10 wherein the female end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. A first plurality of protuberances 21 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 20 circumferentially and longitudinally spaced relative to each other about the outer surface of said male end. The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said

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protuberances of the female end to move circumferentially with respect to each other. The male and female ends are attached to the pipe via threads 11 and 15 and the protuberances are produced via an interrupted and tapered screw thread of which the protuberances include a lead angle. Also the connection includes abutment surfaces 23,24 at one end of the threads and 25,26 at the other end and further the interrupted threads 20,21 themselves form abutment surfaces with each other. Further, the interrupted thread can be viewed as cam patches wherein the threads are arcuate cams (see figs. 3 and 4) and the protuberances are radially captured as they are covered by the slots and thereby prevent radial expansion of the female end relative to the male end. Wilson also illustrates another abutment surface 25 that is on the male end and abutment surface 26 on the female end.

Wilson discloses the invention substantially as claimed above but fails to disclose that the abutment surface 24 of the male end substantially entraps the abutment surface 23 of the female end or the abutment surface 25 of the female end entraps the abutment surface 26 of the male end. Wood discloses a male end and a female end, the male end having an abutment surface having a protrusion (16) that is received in a recess (recess in female member 9) of an abutment surface of the female end (9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the abutment surfaces of the male and female end of Wilson to entrap the other of the abutment surfaces of the male and female end as taught by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

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3. Claims 1-5, 7, 10, 12-15, 17-21, 23, 26, 28-29, 32-39, 51, 54, 56-58, 60-61, 63-66, 69 and 72-73 rejected under 35 U.S.C. 103(a) as being unpatentable over Kamp (US. 6,283,511) in view of Wood (US. 5,709,416).

Kamp coupling illustrates and teaches a connection for assembly of with a first pipe 52 having a female end 54, a second pipe 2 having a male end 9 wherein the female end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. A first plurality of protuberances 70-77 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 5 circumferentially and longitudinally spaced relative to each other about the outer surface of the male end. As noted on column 5, lines 64-67 continuing to column 6, lines 1-5 the columns can be odd (three) or even (two) or other numbers of columns can be provided". The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said protuberances of the female end to move circumferentially with respect to each other. See column 6-8, which discuss how the connection is made and the various shapes and angles to which the slots and protuberances can be made. The protuberances are produced via an interrupted and straight screw thread of which the protuberances include a lead angle. Also the connection includes abutment surfaces 7,57 at one end of the threads and 20,86 at the other end and further the interrupted threads as illustrated in.

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figs. 6 and 7 themselves form abutment surfaces with each other. Further, the interrupted thread can be viewed as cam patches wherein the threads are arcuate cams that extend around the circumference of the round male and female members. As to claim 38 the degree of rotation merely depends on the number of columns and/or the length of the slots and protuberances and since the Kamp coupling is clear that such features can be varied as needed or desired it is clear that Kamp thus anticipates the 20 degree ranges prescribed by claim 38 as such a range would fall well within a coupling with a high number of columns of slots and protuberances. See surfaces 35 and 85, which engage limit rotation (column 11, lines 1-20). Further, the protuberances are radially captured as they are covered by the slots and thereby prevent radial expansion of the female end relative to the male end.

Kamp discloses the invention substantially as claimed above but fails to disclose that the abutment surface 7 of the male end entraps the abutment surface 57 of the female end. Wood discloses a male end and a female end, the male end having an abutment surface having a recess (15) that receives a protrusion (16) of the female end (end of 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the abutment surfaces of the male and female end of Kamp to entrap the other of the abutment surfaces of the male and female end as taught by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

4. Claims 1, 4-6, 12-14 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCaskill (US. 4,185,856).

The McCaskill coupling illustrates and teaches a connection for assembly of with a first pipe 20 welded to a female end 70, a second pipe 23 welded to a male end 60 wherein the female

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end has an inner surface and an outer surface and the male end has an inner surface and an outer surface. As shown in fig. 2 a first plurality of protuberances 76 circumferentially and longitudinally spaced relative to each other about the inner surface of said female end and a second plurality of protuberances 66 circumferentially and longitudinally spaced relative to each other about the outer surface of said male end. The circumferential spacing forms a circumferential array having at least one longitudinal column on both the inner surface of said female end and the outer surface of said male end. The arrays are aligned such that said plurality of protuberances are accepted by a mating pipe end when said male and female pipe ends move relative to each other for forming a connection and wherein the male and female ends engage upon any rotation of one pipe relative to the other pipe wherein such rotation causes said protuberances of the male end and said protuberances of the female end to move circumferentially with respect to each other. As to claim 38 the degree of rotation merely depends on the number of columns and/or the length of the slots and protuberances and since the coupling shows a large number of slots and protuberances it is clear that the coupling thus anticipates the 20 degrees ranges prescribed by claim 38 as such a range would fall well within a coupling with a high number of columns of slots and protuberances. The male end 60 has an abutment surface 62 and the female end has an abutment surface 72.

McCaskill discloses the invention substantially as claimed above but fails to disclose that the abutment surface 62 of the male end entraps the abutment surface 72 of the female end.

Wood discloses a male end and a female end, the male end having an abutment surface having a protrusion (16) that is received in a recess in an abutment surface of the female end (end of 9). It would have been obvious to one having ordinary skill in the art at the time the invention was

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made to configure the abutment surfaces of the male and female end of McCaskill to entrap the other of the abutment surfaces of the male and female end as taught by Wood, to provide proper compression loading and to eliminate movements to separate the joint (column 3, lines 48-49 of Wood).

Response to Arguments

5. Applicant's arguments with respect to claims 1-7, 10, 12-15, 17-21, 23, 26, 28-29, 32-39, 51, 54, 56-58, 60-61, 63-66, 69 and 72-73 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References (Oliver, Hallez, DeLange, Blose and Lumsden et al.) at teach locking of shoulders that have abutment surfaces.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is 571-272-7060. The examiner can normally be reached on 6:30am to 8:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP

August 25, 2005

A handwritten signature in black ink, appearing to read "Vishal Patel". The signature is stylized with a large, sweeping "V" and a cursive "Patel".

Vishal Patel
Patent Examiner
Tech. Center 3600